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ABSTRACT

Recent international discussions provide information on various countries' responses to lifelong learning, including the following: (1) existing unmet needs and emerging needs for education and training; (2) funds required compared with what was provided; and (3) methods for acquiring additional funds, among them efficiency measures leading to savings and reallocation, cost incentives directed at employers, federal mandate for employer involvement in training, and increase in federal student aid. The need for funding varies among wealthy countries and between rich and poor countries although globalization and technological and demographic changes are major factors in the increased need for lifelong learning in all nations. Possibilities for implementing forms of funding also vary and are dependent on prevailing political and economic structures. Federal governments have a major role in providing increased funds for education and training for

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disadvantaged students although this varies internationally. Countries with histories of social/business/government partnerships, such as Sweden, France, and Germany, have more successfully provided for the less advantaged than their less socialized counterparts, such as Australia and the United Kingdom. (Included are eight tables and descriptive boxes. The bibliography lists 35 references). (AJ)

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Financing lifelong learning for all: an international perspective*

Gerald Burke

WORKING PAPER No. 46

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CENTRE FOR THE ECONOMICS OF EDUCATION AND TRAINING

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November 2002

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CENTRE FOR THE ECONOMICS OF EDUCATION AND TRAINING

The *Monash University-ACER Centre for the Economics of Education and Training (CEET)* is a joint venture of Monash University and the Australian Council for Educational Research (ACER).

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- the costs of vocational programs in schools, in TAFE and in industry;
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- labour turnover and the effect on jobs for entrants to the labour market;
- the impact of globalisation on the occupational structure;
- evaluation of 'user choice' for apprenticeship training;
- analysis of the efficiency and equity in the training market;
- policies to improve the transition of youth from education to work;
- framework for performance measures of school completion and transition to work and study;
- the impact of VET research on policy and practice;
- equity and VET;
- models for analysing student flows in higher education and in vocational education; and
- returns to investment in enterprise training.

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Summary

Improvements in lifelong learning are necessary for a range of overlapping reasons. The main ones are the changing needs of the labour force in a globalised economy, the ageing of the population in high-income countries and inequalities in education, work and income. Increased lifelong learning, for all, is important for productivity but also to support social cohesion which in the longer term may underpin productivity.

The paper draws on recent international discussions to consider:

- existing unmet needs and emerging needs for education and training
- funds required compared with what is provided
- how the additional funds can be found—
  - freeing funds through efficiencies or reallocation in the provision of education and training and new forms and places of learning
  - stimulating employers to enhance learning in the workplace and the provision of education and training through increasing the benefits and reducing the costs; or mandating employer provision of education and training
  - stimulating increased individual expenditure by improving access to funds and by increasing the benefits and reducing the costs, and
  - increasing government spending.

The need for additional funding varies among rich countries and between rich and poor countries. The possibilities for implementing various forms of funding also vary with the prevailing political and economic structures. The paper highlights some of the issues with reference to the experience of Australia, a rich country with low public expenditure.

1. Introduction

This paper takes as a starting point the need to promote fair, democratic and prosperous nations in the globalised world economy. It accepts the importance of education and training in developing human capital. Human capital is important for higher levels of production and also for a range of non-market and external effects such as better health, intergenerational effects on children of more educated parents and reduced crime. More recently education is seen to be a factor in encouraging increased interpersonal relations as indicated by membership of groups and volunteering. These factors are seen to be associated with measures of trust and honesty, important for social cohesion, though some studies suggest that this is only realised in societies that also have lower levels of inequality of education and income.

While education and training are important they are likely to be effective when they occur in conjunction with policies in other areas. For example education on its own may not have a large effect in promoting production unless the management of the economy is such that there are jobs created to allow the educated persons to undertake productive work. Where health is poor due to diet, drugs or disease and the system of justice is unfair or harsh then provision of education may not lead to much learning or to jobs.

This paper cites data on a number of countries, most of it compiled by the OECD. There have been enormous improvements in these data but it remains true that it is easy to get a distorted impression of a number of matters due to problems of forcing data into a common framework.

In most countries there remains substantial variation in access to education and to the provision of education appropriate to the needs of the less advantaged. This disadvantage is increased by the distribution of workplace training and adult education which is disproportionately received by those who had the most initial education. It is not clear in most countries that these forms of inequality have been reduced in recent years.

The issues of world inequality also need to be considered. There is a tendency in discussions of lifelong learning to concentrate on one's own country in comparison with others rather than the bigger issues of world disparities and environmental issues. Recent world events draw attention to the fact that learning, education and training on their own are not the solution to our problems. They also suggest that we have to be more conscious of values as well as skills and knowledge and how they are to be learnt.

Consideration of the world rather than a single nation also draws attention to the importance of social cohesion and democracy and how they are to be fostered in the face of gross inequalities of income and power. Green and Preston (2001) show that inequalities in education and income are associated with a number of indicators of social cohesion including violent crime. Average measures of education while associated with some measures of social capital such as membership of groups and networks is not much associated with measures of cohesion.

> ... inequality of educational outcomes is closely connected to income inequality which has a powerful effect on many of the measures of social cohesion, although we cannot be clear yet about which way all the causal arrows run. (Green and Preston 2001)

It is quite probable that income equality impacts on educational equality through equalizing access to education. It is also likely that social cohesion promotes both income equality and educational equality through equalising aspirations and supporting certain types of policy interventions (Green & Preston 2001).

Lifelong learning is fostered by the formal education system, by structured and informal learning on the job and by various forms of individual and community learning. In some quarters it is argued that attention should be on 'lifelong education' and that the shift to 'lifelong learning' implies an emphasis on the individual rather than community, on private rather than public funding, on workplace acquired vocational competencies rather than broader knowledge, and a lesser concern for inequality and citizenship (Boshier 2001). It is clear that the OECD literature does not ignore the issues raised by such critics, though the criticism is useful in helping to force consideration of where the emphasis lies in the debates.

Structure

There are some very good reviews of lifelong learning and its financing (e.g. Verry 2001) and this paper will not attempt to provide a detailed coverage of all the issues. Rather it will sketch the main features, highlight some particular issues and reflect on some Australian experiences as they differ from other countries. It draws on Burke & Long (2000) and Burke (2001).

The following sections deal with

i. existing needs and emerging needs for education and training

ii. funds required compared with what is provided

iii. how the additional funds can be found through government funding and —

- freeing funds through efficiencies in the provision of education and training and through new forms and places of learning
- increasing employer provision of education and training through stimulating the benefits and reducing the costs, improving employers' knowledge of the costs and benefits and, in appropriate circumstances, mandating some aspects of provision
- stimulating individual expenditure by improving access to funds and by increasing the knowledge of the benefits of learning and reducing the costs.

2. Existing needs and emerging needs

Labour force needs

Globalisation, technological and demographic changes have been major factors in highlighting the need for increased learning throughout life.

- There has been a relative shift to jobs requiring more education and training, changes in the types of skills needed and hence a need for new high quality learning among workers.
- Emerging industries and technologies and work organisation are changing the nature of work and skills within occupations.
- The changes are increasing the value of generic skills (communication, working in teams) and basic knowledge as well as occupation specific skills.
- The need for sound basic education indicates the importance of adequate funding for all stages of education and training commencing with pre-school education.
- Not surprisingly, in the light of the above points, the relationship of earnings with levels of education remains positive and private rates of return to investment in training fairly high for most types of education and training.
- Recent studies are demonstrating the importance of the non-monetary benefits and externalities of education and training, suggesting that conventional measures of the social rates of return may be underestimates.
- The importance of education for social capital and for social cohesion when linked with programs directed at the least advantaged is being emphasized.
- New growth theory is attesting to the importance of more and better quality education and training (see e.g. Barro 2000).
- Most countries are experiencing an ageing of their workforce and slow if any growth in the workforce—which further increases the importance of training and education for adults.
- Countries which do not ensure increased skill levels face the danger of a 'low skills, low wage outcome' with the difficulty of maintaining social cohesion if inequality widens.

Details on these matters are considered in a wide range of studies (e.g. OECD 2001 *The Well Being of Nations, the Role of Human and Social Capital*). Some of the issues are briefly elaborated here.

White-collar high-skilled workers, usually more highly educated, grew more rapidly than other workers in the 1980s and 1990s. In 10 of the 21 countries considered by the OECD (Education Policy Analysis 2001 p.103) the numbers employed in White-collar high-skilled jobs increased whereas the numbers of Other workers actually decreased. However, there are considerable variations across countries and in some countries including Australia, New Zealand and Canada the growth of Other workers exceeded that of White-collar high skilled workers.

Table 1 shows the relationship of level of education with earnings from employment across a range of countries. There is a strong and consistent relationship among

educational achievement, earnings and employment. On average more-educated workers have larger earnings than less-educated workers. The data are for persons aged 30 to 44—mid career after completion of most initial qualifications.

Table 1. Relative earnings of the population with income from employment by educational attainment, persons aged 30 to 44

	Men				*Women*			
	Below upper secondary education	*Upper secondary education*	*Tertiary-type B education*	*Tertiary-type A and advanced research programs*	*Below upper secondary education*	*Upper secondary education*	*Tertiary-type B education*	*Tertiary-type A and advanced research programs*
Hungary	74	100	220	222	71	100	141	160
Portugal	57	100	153	192	59	100	136	209
France	86	100	137	181	81	100	139	165
United States	63	100	123	180	65	100	120	177
Czech Republic	77	100	182	176	75	100	124	176
Finland	91	100	124	172	98	100	121	170
United Kingdom	73	100	123	165	63	100	137	195
Unweighted mean	*77*	*100*	*130*	*157*	*74*	*100*	*126*	*166*
Spain	76	100	101	156	66	100	90	156
Denmark	85	100	118	143	90	100	114	146
Canada	81	100	112	143	69	100	118	165
Switzerland	77	100	124	140	80	100	133	160
Australia	83	100	116	138	84	100	112	154
Ireland	72	100	104	136	55	100	142	155
Korea	90	100	109	136	75	100	138	181
Norway	89	100	130	135	88	100	144	137
Germany	63	100	101	131	68	100	106	167
Netherlands	85	100	128	130	71	100	133	150

Source: OECD 2001 *Education at a Glance* Table E5.1.

Note: Tertiary-type A programmes have a minimum theoretical duration (at tertiary level) of three year's full-time equivalent. Tertiary-type B programmes are typically shorter and focus on practical, technical or occupational skills for direct entry to the labour market. They have a minimum duration of two years full-time equivalent at the tertiary level.

In addition, persons with more education are more likely to be in employment and especially more likely to be in full-time employment. Female university graduates are

very much more likely to be in the full-time paid workforce than are women who left school early. Adults with less than an upper secondary education are more than two times as likely to be unemployed as those with university education (OECD Education at a Glance 2000 p.270):

- about 80 per cent of women aged 25 to 64 with tertiary education were employed in 1998 compared with 60 per cent for those with upper secondary/non tertiary and a less than 50 per cent of those with less than upper secondary education;
- about 90 per cent of men with tertiary level education were employed, around 85 per cent for those with upper secondary and little over 70 per cent of those with less than upper secondary education.

Rates of return

Such data on earnings and employment can be used in the calculation of rates of return. Data on after tax earnings and private costs of tuition can be used in calculating private rates of return. Before tax earnings and data on total costs of tuition can be used in estimating social rates of return. Expenditures by governments and their receipts in additional taxes from those educated can be used for fiscal rates. Table 2 shows that in general the private rates are in excess of 10 per cent. The rates are 20 per cent or more for men in France and for women in France, Australia and Canada.

Table 2. Estimates of private, fiscal and social rates of return to education at the university level, by gender 1995

	Men			Women		
	Private	Fiscal	Social	Private	Fiscal	Social
	%	%	%	%	%	%
Australia	14	10	11	21	10	13
Belgium	14	9	9	8	13	9
Canada	14	7	9	21	7	11
Denmark	8	8	8	7	8	8
France	20	11	13	28	9	13
Sweden	m	6	9	m	4	7
United States	11	9	10	12	9	11

Source: OECD 1998 *Education at a Glance* Table F8.1

The relatively very high labour force participation rates of females with university qualifications are a factor in the high rates of private return shown. The lowest social and fiscal rates are 7 per cent, except for fiscal rates in Sweden where the government bears a larger than usual share of the costs and a compressed wage structure affects the earnings from additional education.

The method by which social rates of return are calculated leaves out externalities. This means excluding the effects of the education of the current generation on the education

of the next generation, reduced crime and social capital effects. Both private and social rates of return leave out most non-earnings benefits including the effects of education on health, and the personal consumption benefits of undertaking education. Some of the effects are listed in Box 1. Such effects along with the possible effects on social capital and social cohesion are receiving more attention in the literature and increase the strength of the case for the expansion of education and training (Wolfe & Haveman 2000, OECD *The Well-Being of Nations* 2001).

Table 2 shows the conventional rate of return estimates to university level education. Some micro studies of the costs and benefits of particular programs at other levels are informative. Verry (2001, pp. 61-66) reviews the costs and benefits of some high quality anti-poverty preschool programs in the US. The programs were associated with higher levels of educational achievement, better labour force outcomes, lower incidence of criminal activity, less dependence on welfare and reduced teenage pregnancies. The benefit to cost ratios were high, on some estimates very high.

Box 1. Some non monetary and external effects of education

- a positive link between one's own schooling and the schooling received by one's children
- a positive association between schooling and the health status of one's family members
- a positive relationship between one's own education and one's own health status
- a positive relationship between one's own education and the efficiency of choices made, such as consumer choices which contributes to well-being similar to the increased money income
- a relationship between one's own schooling and fertility choices in particular, decisions of one's female teenage children regarding non-marital or early childbearing
- a relationship between schooling/social capital of one's neighbourhood and youth decisions, their level of schooling, non-marital childbearing, and participation in criminal activities.

See: Wolfe & Haveman (2000)

Needs of the less advantaged

Some of the non-monetary and external effects just mentioned are relevant to the case for improving the education outcomes of the less advantaged.

Youth

While the position varies there are a considerable proportion of young people in most countries who fail to complete secondary education and who experience difficulties in transition to work, often with consequences for their lifetime employment, income and subsequent education and training. They tend to be young people from low socio-economic background, from Indigenous or minority groups or from particular regions. They tend to suffer poorer levels of health and engage in criminal activities at above average rates. As an example, Table 3 shows the incarceration rates for male indigenous Australians and black Americans aged 25-34 in 2000. These rates reflect both crime and the system of law enforcement and punishment. The main issue is the social suffering they represent but another is the enormous expenditure on prisons, expenditure that

potentially could be reduced by successful programs for raising the human and social capital of young people. As noted by Verry (2001) the best investment for youth is to provide them with a strong educational foundation from pre-school years.

Table 3. Male population aged 25-34, percentage in prison, 2000

All Australians	0.5%
Indigenous Australians	4.8%
All Americans	3.3%
Black Americans	12.6%

Source: Australian Bureau of Statistics 2001, US Department of Justice 2001

Adults

Those persons who do not complete secondary school and have low levels of literacy tend to have a low level of access to further education and training and, as already noted, have lower incomes and higher unemployment.

Table 4 shows the variation across a number of countries in the proportion of the adult population at various literacy levels. Only Sweden and Norway have less than a third of their adult population at the lowest two levels. USA, UK, NZ and Ireland have 50 per cent or more at these levels.

Table 4. Population aged 16 to 65 at each literacy level

IALS literacy level	*1*	*2*	*3*	*4 and 5*
	%	%	%	%
Sweden	6	19	39	36
Norway	9	21	41	29
Netherlands	10	26	44	20
Germany	9	33	40	19
Canada	18	25	32	25
Australia	17	28	38	17
United States	24	26	31	19
United Kingdom	23	27	31	19
New Zealand	21	29	32	18
Ireland	25	32	32	12

Source: OECD (2000) *Literacy in the Information Age.*

Note: Literacy data in the International Adult Literacy Study (IALS) is reported for three domains: Prose, Document and Quantitative. The data here are for document literacy. Level 1 is the lowest level.

Table 5 shows that adults with the lowest level of literacy participate in job related education and training at only a quarter of the rates of those with the highest literacy rates. In Canada and New Zealand the small proportion of those with low levels of literacy who do in fact receive training receive a considerable amount, possibly relating to labour market programs for the unemployed. Box 2 summarises some of the main findings on who has access to further education and training. The disadvantage they experienced at school and other early learning is compounded.

Table 5. Participation in job related education and training and hours of training by literacy level (mid 1990s)

	Participation rate		*Mean hours per participant*	
	IALS level 1	*IALS level 4/5*	*IALS level 1*	*IALS level 4/5*
	%	%	%	%
Australia	9	54	198	152
Canada	9	51	501	137
Switzerland	10	44	107	173
United States	15	58	92	104
United Kingdom	18	65	124	139
New Zealand	20	57	303	200

OECD 1998 *Education at a Glance* Table C5.4

Box 2. Distribution of further education and workplace training

Less further education and training is received by persons: who have not completed secondary school

- with low levels of literacy
- with low levels of income
- who are older
- who are part-time and casual workers
- who work in small firms
- who work in non-unionised workplaces
- who operators or labourers rather than professional or other more skilled workers
- who are self employed
- who are not employed

See Groot 1997, OECD *Employment Outlook* 1999

Ageing

The changes occurring in population heighten the need to provide for opportunities for education and training for adults for them to remain in a changing workforce but also to participate effectively in society. At the same time the decline in the proportion of the population in the usual school ages will reduce the demands for expenditure on formal schooling.

Table 6 shows combined effects of recent levels of fertility, mortality and to a much lesser degree migration. The projection to 2050 highlights what wil. happen if current trends persist. Several of the rich countries have very low fertility rates, are likely to have declining populations and a very, very substantial older population. Their projected populations are shaded. Spain, Japan and Italy are projected to have over 40 per cent of their population aged 60 and over, and less than 50 per cent aged 15 to 59, the main working ages. The United States is a notable exception with a growing population and less than 30 per cent projected to be 60 and over.

Some poor countries have high fertility and hence a high proportion of the population aged 0 to 14. China is the notable exception among the lower income countries in having a relatively low fertility and hence an ageing population.

In many poor countries AIDS is leading to a growing level of mortality so that the proportion of the population aged 60-plus is projected to remain low. However the relatively high proportion of the population in the working ages 15 to 59 is of benefit only if they are actively engaged and in many countries the effective employment rate is low.

Table 6. Population in major age groups for selected countries, 2000 and 2050 (medium-variant)

	2000				2050			
	Population Million	*Age groups*			*Population Million*	*Age groups*		
		0-14	*15-59*	*60+*		*0-14*	*15-59*	*60+*
World	6,057	30	60	10	9,322	21	58	21
Selected countries								
Spain	40	15	64	22	31	11	45	44
Japan	127	15	62	23	109	13	45	42
Italy	58	14	62	24	43	11	46	42
Germany	82	16	61	23	71	12	50	38
Russian Federation	146	18	64	19	104	14	49	37
United Kingdom	59	19	60	21	59	15	51	34
Republic of Korea	47	21	68	11	52	16	50	33
Netherlands	16	18	63	18	16	15	52	33
France	59	19	61	21	62	16	51	33
Canada	31	19	64	17	40	16	53	30
China	1,275	25	65	10	1,462	16	54	30
Australia	19	21	63	16	27	18	54	28
Sri Lanka	19	26	64	9	23	17	55	28
Thailand	63	27	65	8	83	17	56	27
United States of America	283	22	62	16	397	19	55	27
Brazil	170	29	63	8	247	20	56	24
Indonesia	212	31	62	8	311	20	58	22
Iran (Islamic Republic of)	70	37	57	5	121	20	58	22
Malaysia	22	34	59	7	38	20	59	21
India	1,009	33	59	8	1,572	20	60	21
Bangladesh	137	39	56	5	265	22	62	16
Iraq	23	42	54	5	54	22	62	15
South Africa	43	34	60	6	47	24	63	14
Kenya	31	43	52	4	55	24	63	13
Pakistan	141	42	52	6	344	23	64	12
Nigeria	114	45	50	5	279	25	65	10
Uganda	23	49	47	4	102	35	59	6

Source: United Nations Population Division.

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3. Is provision expanding to meet the needs?

As discussed there is a need for additional education and training to meet the changing needs of the labour force in a globalised economy; the ageing of the population in high income countries and ongoing if not expanding inequalities in education, work and income. Increased lifelong learning, for all, is important for productivity but also to support the social cohesion which may underpin productivity.

From the discussion above there is a need for the expansion of education and training and continuous access to it for all groups to meet the needs of the changing economy. The ageing of the population in nearly all countries, dramatically so in some of the rich countries, draws attention to the needs for education and training for older persons.

The greatest needs appear to be in lessening the inequalities in access to educational achievement and continuing participation in education and training. To do this it is necessary to give attention to the quality of education for the less advantaged from early childhood. The benefits of investing, in terms of educational achievement and a range of social and economic benefits, are large.

The less advantaged, including Indigenous peoples in many countries, commonly participate for a smaller number of years in education and training. They usually do not have the same quality of teachers and other resources while they are in education and training. They need better quality resources to offset their initial disadvantage. This is true at pre-school and throughout the schooling experience. In the case of youth who are a risk of non-completion of school and subsequent poor employment experience there is a case for additional and costly support in a variety of formal and informal settings to increase their motivation and capacity to learn.The question can be asked: are countries already taking the steps to meet the needs outlined? There are for example many countries introducing forms of youth entitlement to try to reduce the proportion of young people seen as at risk.

Overall there is an expansion in the completion of secondary schooling and in participation in tertiary education and training though often with reduced expenditure per student. There is an increase in the share of private funding in many countries, though there are many countries that still rely very heavily on public funding. It is not clear what is happening with workplace training as data over time is inadequate to determine what the recent changes have been.

There are large differences among countries in the proportions of the population that have low levels of literacy and of educational completion (see Table 4 on literacy levels). There is not much evidence available of the differences being narrowed or inequalities in particular countries being reduced.

For those countries not performing well in these comparisons the cost of improving their performance is considerable if not daunting (OECD *Education Policy Analysis* 1999 pp.15-20). Careful consideration needs to be given to how funds can be freed up within the system and to how alternative sources of funds could be tapped.

4. Freeing funds through efficiencies?

For the rich countries the lower numbers at school age reduces the needs for educational funds and provides an opportunity with the existing level of funds to provide support for better quality education and training for the less advantaged. However if older person do not remain longer in the workforce than at present much of the savings on younger people will be needed to support the incomes and health of a rapidly growing number of older persons 'not in the labour force'.

A very important source of efficiency is in allocating expenditures to where they have the largest impact. There is a strong case for improving the education foundations from early childhood for the less advantage. It is arguably cheaper and easier to address this from early childhood than at the stage when young people are dropping out of school and at risk of poor employment and anti-social behaviour—though efforts at this level need to be expanded too.

There is the potential for cost savings within educational institutions. These involve economies in the use of personnel, capital facilities and other supplies. Merging institutions, reducing class sizes, reducing hours of face-to face teaching and cutting the length of courses are some of the options already being pursued. Better costing of the use of non-financial assets has the potential for yielding considerable savings and the use of accrual accounting in the public sector may help to promote such efficiencies.

At some levels of tertiary education the use of flexible learning methods and the internet has the potential to save costs without reducing quality. The introduction of new technologies has initially increased costs and it is not clear yet what the future cost savings could be.

In Australia, governments have put part of the delivery of training to tender from both public and private providers. Contestable funding is aimed at stimulating competition to encourage maximum provision for a given cost that meets the needs of the users of the system, the students and their employers.

Within public education more devolved forms of management have been introduced. The degree of devolution varies across the sectors of education and among the States. This includes management of funds and the right to seek private funds to supplement their publicly funded activities. Universities in particular have a high degree of financial autonomy. Public sector management has been reformed with emphasis on performance rather than specification of detail in the use of resources.

There is potential for realizing further economies but how much can be achieved without loss of quality is not easily predicted and is likely to continue to be contested.

5. Additional funds needed - who should pay?

Reforms to the financing education and training need should lead to:

- the provision of more education and training especially for the less advantaged;
- more efficient and effective delivery of good quality education and training ; and
- increased equity in the provision and outcomes of education and training.

The main sources of funding for education and training are governments, individuals and employers. Governments are involved in finance or provision of training, provision of infrastructure, regulation and information for both individuals and firms. The discussion is therefore arranged about individuals and then firms and government intervention to support them either through finance or other means.

Individuals

Individuals will increase their participation in education and training if they or their families perceive improved benefits or lower costs and if they have access to finance. In this section a range of methods for grants and loans that reduce costs or provide finance are discussed. Improving the information base so that students can undertake training of the highest benefit to them is also considered.

Varieties of government funding

A wide variety of funding methods for students are used in education. In most countries primary and secondary schooling is available in public schools without tuition fees. Most countries charge at least some fees for tertiary education. Sweden and Finland in 1997 were the only two OECD countries where no fees were charged for tuition at tertiary level (OECD Education at a Glance 2000 p.63). Korea, Japan and the United States are the countries with most notable levels of private finance, mainly at tertiary level.

In many countries assistance is given to households for senior secondary and tertiary students in the form of grants and subsidised loans. Sweden does not provide loans or grants for tuition fees, but it does not charge tuition fees. Australia introduced fees for university education and provides loans, with repayment contingent on income, specifically to cover those fees.

Entitlements

A number of schemes have been proposed for 'entitlements' to permit the less advantaged to have a proportionate or more than average share of government support for education and training. Several of them have been discussed at this conference and so will not be dealt with in detail here. The concept of lifetime entitlements is much discussed but nowhere adopted as a comprehensive scheme. The more limited idea of entitlements to study leave or a voucher for payment for an amount of training are more common. Entitlement proposals usually differ from the original 'voucher' concept

(Friedman 1962, p.93). Friedman's voucher scheme allowed public funding to follow the student to the institution of choice. Most entitlement proposals go further in guaranteeing for each person an amount of money after compulsory schooling for the purpose of education and training. Entitlements may be financed by grants or by loans, with the emphasis on loans in recent proposals (Levin 1998, OECD 1996, p.243).

Timmermann (1995, p.5) suggests a form of entitlements to be used over a working life for a variety of learning opportunities including university courses, vocational courses, apprenticeships, on-the job training, continuing education programs and vocational and non-vocational adult education. The value of the entitlement might be varied according to the social background of the learners. The entitlements might accumulate interest so that their value would be larger when used later in life. Such a scheme ranks high on equity. There may be a problem of financing high cost courses, assuming that market forces alone will not ensure a correct allocation of training to meet the needs of the workforce.

An alternative entitlement scheme is the *Franchise Model* advocated by Van Ravens (1998) and discussed in his paper at this conference This involves two elements: a lump sum grant by government to finance post secondary school studies but with a rising proportion of self finance with increasing age; and an open system of learning where competencies will be accredited whether acquired in the education system, the workplace or the community. Van Ravens (1998, p.96) argues 'The drop-out phenomenon, considered an irreparable loss in a closed system, is a non-issue here. Everybody drops out all the time and everybody drops back in. The time it takes to graduate does not need to be reduced and becomes irrelevant'.

Student assistance

Australia has a tradition of considering support for student living expenses separately from support for tuition costs. It is not clear that they should be considered separately. The arguments for entitlements, just considered, or for fees and loans discussed below, could be extended to apply to student living expenses. The point can be emphasized by noting that Sweden uses its loan schemes for student living expenses. Australia relies mainly on grants for living expenses for full-time school, VET and higher education students. It uses loans for tuition costs in higher education but not for the other sectors.

Most systems of student assistance are focused on formal courses of study. To assist older persons there is a good case for allowing the areas for assistance with living costs to be extended as proposed by Timmermann (1995) and Van Ravens (1998) in their suggestions for entitlements.

Personal Taxation

In many countries, education and training expenses related to one's career can be deducted. Tax deductions are available for individuals payments of education expenses in about two thirds of European countries (Bruyneel 1999). Tax deductions partly offset the disincentive that fees cause to investment by adults in education. However the assistance varies with the level of taxation and it offers negligible support for the less advantaged.

Value added taxes are levied on training expenditures in most countries. Australia introduced a goods and services tax (GST) in 2000 but exempted education and training in accredited courses and also in programs that lead to accredited courses. However the GST applies to non-accredited programs that provide a way into more formal education, programs taken by those reluctant to enter the formal system.

The Swedish system of Individual Learning Accounts is an innovative combination of taxation reductions at the time of placing money in the accounts together with subsidies offsetting part of the taxation which is levied when the accounts are drawn on for education and training.

Encouraging payments by individuals: fees and loans

Individuals will be encouraged to pay for training if they believe the benefits justify the expense and they have access to the funds to make the investment. Hence providing more appropriate training and providing better information on it is one part of the means of stimulating individual payments. The other part is to ensure access to funds.

Given the limits to public funds, additional fees in education and training represent an alternative way of funding. Simply raising the level of fees is likely to deter lower income students. Increasing fees but providing loans to finance the fees would not have the same disadvantages. This is more likely to have few negative effects if the loan repayments are contingent on income reaching say average weekly earnings.

In Australia the Higher Education Contribution Scheme (HECS) was first introduced in 1989 with a system of fees covered by loans with repayment to be made when income reached the average earnings of adults in full and part-time work. In the first few years there was some small deterrence to enrolment detected (Andrews 1999). From 1997 the fees have been increased and repayment now must commence at a much lower level of income. The effects of this are not yet clear but are likely to be larger and the scheme is prima facie less equitable than one that requires payment from those whose earnings exceed the average in the community.

The need for further research to find methods that improve the ease of undertaking training across the sectors and to increase the fairness in the distribution of resources is endorsed.

Improving student and trainee knowledge of benefits

To the extent that individuals make choices and plan their own pathways it is necessary to improve the range of learning and job information available. A major role for governments is 'to establish an information system on lifelong learning opportunities that includes data on availability, cost, subsidies and markets for trained personnel in a variety of occupations as well as individual data on providers' (Levin 1998, p.210).

A number of countries have developed models for forecasting employment by occupation which is part of the data required on occupational opportunities by region. Such forecasting systems are important in providing a coherent picture of possible job futures. In the Netherlands, Canada, USA and Australia this work has been enhanced by estimates of the jobs for newcomers or re-entrants to the workforce created by labour turnover (Shah & Burke 2001).

Getting job and education information in a form suitable for job and education seekers to use is a major matter. Intermediaries between employers and students and 'One-stop-shops' for information on jobs, training and various forms of financial assistance can be useful—though we should acknowledge that the future remains uncertain and additional information cannot eliminate uncertainty.

The least advantaged may not be well fitted to use and profit from the information systems. The introduction in the UK of 'Learning Direct' a help phone line for free information for adults with learning or career queries is an example of one means of making the information system more accessible.

Employer funding

Schemes aimed at increasing employer funding of training include:

- schemes that help firms to capture a greater share of the benefits of training;
- legislative requirement to undertake a minimum level of expenditure;
- tax relief and subsidies linked to the level of employer contributions to training;
- infrastructure support such as information on 'best practice', a qualifications framework and assistance with establishing training programs;
- social partnerships and exhortation to train; and
- schemes to help firms awareness of the value of training including its contribution to intellectual capital and profits.

Incentives for employer funding: what theory and research suggests

In reviewing schemes to promote employer training there needs to be recognition that an employer's incentive to invest in training will be greater:

- the greater the increases in productivity of the employees trained;
- the greater the period of work or the retention of workers while the training is still effective;
- the smaller the proportion of the benefits of the productivity that are paid to the workers in higher wages and salaries;
- the more cost-effective is the training; and
- the firm's awareness of its benefits.

Research in a wide range of countries reviewed by Long *et al* (2000) shows the rewards to firm sponsored training are high but that not all of them are captured by the firm providing the training. A considerable proportion of the benefits are received by employees as increased earnings.

Economic theory used to suggest that profit-maximising employers would not pay for general training (training of use to more than one employer) because in a competitive market all the benefits would be captured by employees in increased earnings. Research reviewed does show that more general courses are associated with larger wage increases. It also shows that employers fund a considerable amount of general training, that is without any obvious reduction in the earnings of the workers while they are being trained (Stern 1995, p. 172-75). There are a number of reasons why firms reap a substantial proportion of the benefits of *general training* as well as of specific training. The reasons include the costs to workers of changing jobs, the lack of knowledge of other firms of the training a worker has received, and the compression of award wages so that trained workers are paid less than their marginal product.

Increasing the employer's share of benefits

Any steps a firm can take to increase its retention of its trained workers without providing pay increases will lead to an increased return on its investment. One of the reasons why small firms provide less training is that they are at greater risk of losing workers they train. On average smaller firms tend to pay lower wages. They also have fewer career opportunities within the organisation to help retain their workers.

Contracts of employment such as apprenticeships, superannuation schemes, permanent employment and the provision of a career structure, may all contribute to the firm recouping more of its investment in training. Contract of training, as for apprenticeships, allows an employer to pay less than market wage at least during some part of the contract period (Dougherty & Tan 1997). There is a caveat to advocating the extension of contracts that allow the holding down or reduction in wages during the period of training. It is the need to be sure that the wages in general are fairly determined and not already constrained by a non-competitive labour market. The industrial relations issues are substantial.

Legislated requirement to train

In several countries a range of requirements in relation to education and training are made of employers, usually those with 10 or more employees. These are discussed in detail by Gasskov (2001) and in his paper at this conference.

The schemes include the provision of paid leave as in France, Belgium and Denmark. With the exception of Denmark it is the more educated workers in full-time employment who benefit most.

Several countries including France, Korea, UK and Australia have had schemes requiring minimum levels of employer training expenditure or contributions for collectively funded training as a percentage of wages. UK, Korea and Australia have abolished or substantially changed their schemes. The French scheme initiated by employer and employees but then enforced by government legislation appears to be the one most successful in stimulating training (Gasskov 2001).

Tax deductions and subsidies

Some forms of training in firms are subsidised by governments in several countries. Total expenditure on active labour market programs averages about 1.0 per cent of the GDP in OECD countries (OECD Employment Outlook 2000). Some of the funds for labour market programs are to subsidise employment, or for job creation schemes, which often have a training component to them. Denmark stands out in applying over one per cent of GDP to adult training. Much of this training expenditure is for the unemployed to assist them in entry to employment.

Government subsidies for training are an alternative to taxation concessions, though the incentives for private expenditures may differ. The main forms of subsidies to employers currently operating in Australia apply to apprentices and trainees. It is the young that mainly benefit from these subsidies, though there has been a recent extension in availability of traineeships to older persons. The subsidy scheme in recent years embodies start up payments and rewards for completion. The recent rapid expansion in traineeships (usually for less than one year's training with most time on-the-job) might in part be attributed to these subsidies.

Employers in many countries benefit from the structure of taxation that treats expenditure on training in the same way as other costs of production. That is, unlike investment in plant and equipment, the full cost of training and grants to employees for training can be charged against taxation in the year it occurs. This is the arrangement in all the OECD countries surveyed by Bruyneel (1999).

The immediate deduction of training expenses provides little incentive for the maintenance of records of the training or of the accumulated employee intellectual capital. The options to add a premium to the deduction would encourage greater investment. If the premium had to be treated like fixed capital and deducted over a number of years it would also promote greater knowledge of the extent of the firms investment in training (Wurzburg 1998). The Netherlands in 1998 adopted a scheme to provide an extra 20 per cent deduction of training expenditure from company profits liable to corporate taxation. An extra deduction of 40 per cent of the training costs for workers above the age of 40 is allowed (Baaijens 1998, p.105).

Infrastructure support and information

The benefits for individuals acquiring further education and training will be greater if potential employers can be made aware of the skills, knowledge, and other capabilities they have acquired. A system of qualifications which are understood and recognised throughout the country is seen as contributing to this. These national systems generally involve arrangements for the recognition of prior learning including workplace learning. Such systems are being developed in several countries including Australia, Austria, Denmark, Hungary, Italy, Netherlands, New Zealand, Norway and UK. How effective they have been is yet to be determined.

Governments assist firms in defining the types of training needed in particular occupations. In the UK, Australia and New Zealand, industry training boards have been established with a major task of identifying the competencies required for a wide range of occupations. Modes of assessing competencies are also defined. In some cases these developments are linked to a nationally recognised system of qualifications. The

production of materials for instruction and particularly for assessment in the workplace similarly reduce the cost to the employer.

Small and medium employers who currently provide the least training are likely to be the main beneficiaries of these government activities. Larger employers are more capable of financing training facilities, identifying training needs and organising in-house and external training. The effect on the level and quality of training of these developments are yet to be well assessed.

Social partnerships and exhortation

The problem of losing the investment in trained workers can be mitigated by tacit agreements not to poach workers, sustained by chambers of commerce most notably in Germany. In Germany too there is social pressure on employers to train irrespective of the costs and benefits. Establishing these arrangements in countries where the social and political framework is dissimilar to Germany may not be at all easy (Soskice 2002).

Social partnerships in training are used in some countries. A good example, from outside the OECD, is the skill development centres in Malaysia. These are non-profit private corporations established with some funds from State government foundations and contributions from employers. They are governed by boards with a heavy representation of employers. They are usually sited close to industrial parks and support in-plant training in the first instance and also training both on and off the job for qualifications. They stand in contrast to the expensive and traditional, if good quality, training provided in government owned and operated technical institutions in Malaysia.

Increasing employers' awareness of benefits

Employers in Australia who do not provide training indicate that cost or time considerations are important factors, but the most nominated reason for not providing training was that their current employees are adequately trained. This may well be true in the current mode of operation but it could reflect lack of knowledge of training and its benefits.

While estimates of rates of return to the formal education system have been well known since the 1960s the methods of estimating them have little if any application at the enterprise level (Wesphalen 1999, p.7). The promotion within enterprises of the measuring and reporting of intellectual capital (OECD Measuring Intangible Investment 1999) is a more promising means of raising awareness of the value of investment in training and the subsequent better planning and monitoring of that investment. It is unlikely that firms will make effective use of their training investment if they have little idea of its allocation across the firm and little monitoring of the benefits.

One of the best-known schemes to date is the Investors in People (IIP) in the UK. In 1999 some 33,000 organisations covering a third of the total workforce had committed to the standard framework for training. The large majority of organisations involved see it as important for morale, workplace relationships, skills, quality of product, customer satisfaction and financial performance (Westphalen 1999).

Employer reporting of intellectual capital is receiving increasing attention (Ferrier & McKenzie 2002). Such reporting may have an impact on information about the benefits

of training, the planning of training and better use of personnel. One means of promoting this reporting is a requirement on firms for greater disclosure of their intellectual capital. However it seems unlikely that this will occur until schemes seen as useful and usable have been developed and more widely trialed as in Finland and Denmark (Wesphalen 1999, p.27).

Concluding comments: policy restraints

Governments have the major role in providing a considerable proportion of the increased funds for education and training especially for less advantaged. They have an increasing role in supporting the framework in which learning takes place. This includes

- providing incentives to individuals to support their own participation in a variety of formal and informal settings
- information on education and careers
- information on and support for workplace environments supportive of learning
- establishing or recognizing of learning and qualification structures
- supporting with funds and legislation cooperative arrangements among employers and workers.

The achievements of different countries differs widely. Some have been clearly more successful in their provision for the less advantaged. It is not clear however that the approaches of the more successful are readily adopted by others. There are a range of economic, industrial and political factors that may make policy transfer less successful. In particular the successful social partnerships as in Germany or France may not easily be developed in Australia or the UK. Nevertheless the study of those societies which have attempted and achieved much better outcomes for their less advantaged may provide support for policy development among those countries lagging in commitment.

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